

Is Human Safety Worth an Animal's Pain

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Abstract

The use of animal testing has proven to be an ethical war with the autonomy of animals and the questionable superiority of humans. Exploring the moral dilemma of animal testing, this essay specifically fights to find answers as to why human lives justify the pain and suffering inflicted upon animals for our benefit. While animal testing has led to significant medical advancements, including using “humanized mice” for immune system research, the essay also considers the moral and ethical implications. The overall reliability of animal testing questions the ethical standpoint of highly regarded research and whether it is worth putting another living being through pain. It posits that while animal testing has contributed to human health and safety, it remains a contentious practice fraught with ethical concerns.

Introduction

Animal testing is used worldwide for numerous products, such as cosmetic makeup, cleaning supplies, pesticide chemicals, and over-the-counter drugs. Over the past 85 years, animal testing has been legalized to guarantee the safety of humans. According to the Humane Society of The United States, in 1938¹, “The United States Food, Drug & Cosmetic Act is signed into law, requiring some safety substantiation of cosmetic products,” which reportedly “-compels companies to begin testing their products on animals.” Animal testing can consist of numerous trials that can harm an animal’s well-being.² These experiments can be conducted through needles/injections, forceful inhalation of toxic chemicals and or gasses, and even as far as removing organs and tissues. The use of animal testing, however, can prevent major issues among humans regarding medicinal side effects. In a world where technology may be able to replace animal testing completely, it truly sparks the moral question; is human safety worth an animal’s pain?

¹ The Humane Society of the United States. “Timeline: Cosmetics testing on animals,” n.d. <https://www.humanesociety.org/resources/timeline-cosmetics-testing-animals>.

² “What Is Animal Testing? | Cruelty Free International,” n.d. <https://crueltyfreeinternational.org/about-animal-testing/what-animal-testing>.

Animal Testing in the Medical Field

Research in the pharmaceutical industry uses animal test subjects to observe all sorts of reactions and effects that may occur from drugs. Since animals are biologically akin to humans, they are an accurate and adequate form of testing unproduced substances before the actual launch of a product. Through animal testing, companies can ensure the safety of their products without risking a human life for experimentation.³ In some circumstances, animal testing has proven to be an effective, and preventive way of avoiding defects that may come with certain medications. A scientific article by Dr. Rachel Hajar⁴ covers multiple occasions when animal testing was not conducted, leading to an untested medication's devastating results. The drug that caused controversy among Americans was Elixir Sulfanilamide. The mixture was tested for aspects such as flavor and scent, but not for the actual safety of the product. The author claimed that the combination caused extreme side effects when ingested, leading to multiple injuries and over 100 deaths, which were mainly children. The reaction forced the company to recall the product for apparent reasons, and the event jump-started the 1938 United States Food, Drug, & Cosmetic Act. The implementation of this act proved that untested medication is extremely dangerous for human consumption. Due to this experience with these medications, the importance of animal testing became prominent in the science and medical industry. Safety, especially for those vulnerable, like the children that were negatively affected mentioned prior, became more of a priority due to the deadly side effects caused by the untested product.

As animal testing became a more common form of product safety protocol, a groundbreaking scientific discovery, which included mice, had been uncovered. By introducing a “humanized mouse,” a group of scientists from the University of Regensburg in Germany achieved advanced research on immune systems in neonatal and full-term fetuses. As a common issue faced during pregnancy, the bacteria “*Streptococcus agalactiae*” habitually can cause numerous kinds of infection in several fetuses. The use of the humanized mouse not only led to new forms of treatment but also to the discovery of how to replicate human body systems on other animals.

This process began with mice bred within the facilities to prevent any pathogens from affecting the results of the study. Each mouse was

³ “Why Do Scientists Use Animals in Research,” Default, n.d., <https://www.physiology.org/career/policy-advocacy/animal-research/Why-do-scientists-use-animals-in-research?SSO=Y#:~:text=Animals%20are%20needed%20in%20research,to%20be%20safe%20and%20effective.>

⁴ Aysha Akhtar, “The Flaws and Human Harms of Animal Experimentation,” *Cambridge Quarterly of Healthcare Ethics* 24, no. 4 (September 14, 2015): 407–19, <https://doi.org/10.1017/s0963180115000079>.

injected with a dose of 2×10^5 CD34⁺ stem cells contracted from human cord blood. The group used a Magnetic cell separation (MACS) technique to obtain the cells used for injection into the mice test subjects. Once the mice reached around 3-5 months old, 56 humanized mice were purposefully infected with the bacterial strain. Results showed that the implementation of the stem cells into the mice showed significant levels of human immune cell reconstitution, which is the ratio of human stem cells to the mice's previous isolated cells. Various organs reflected this immune cell reconstitution, such as the liver and spleen, and somewhat lower levels of this reconstitution in the lungs. The study found a reliable level of similarity with the immune systems of the humanized mice and human neonates. Although animal test subjects will never fully replicate the exact reactions humans may have to certain experiences, the immune responses within the study contained similar deficiencies in general when compared.⁵

Replicating these body systems through altering an animal's anatomy, such as the immune system replicated onto the mice within the study, can allow scientists to test new treatments before human exposure, which again helps with the issue of human safety. Introduction to more experimental trials, such as the one using the humanized mouse, gave scientists a new sense of hope for researching different methods of animal testing. A breakthrough in the science world, the humanized mouse gave a steppingstone for future endeavors in medical research. Studies like this have opened the doors for new technology to thrive, also including the overall prevention of certain medical outcomes due to animal testing⁵.

Moral Aspects of Animal Testing

Animal testing has proved that it can be a reliable way to assess the safety of certain products, but it has also proved that some situations cannot translate from the biology of humans to those of animals. From a scientific article from Aysha Akhtar of Cambridge University, it gives an opposing side of animal testing through a scientific perspective. In the article, Akhtar claims "Although it is widely accepted, medicine should be *evidence-based*," whereas animal testing can be seen as experimental rather than evidential. The entire concept of animal testing is solely experimenting with whether a certain unit will affect humans harmfully. Taking the gamble of reliability with the fact that the subjects are non-human is in fact, an experiment, a test. Akhtar discusses how test subjects are simply not the same as humans which

⁵ Ernst, Wolfgang, Nicole Zimara, Frank Hanses, Daniela N. Männel, Birgit Seelbach-Göbel, and Anja K. Wege. "Humanized Mice, a New Model to Study the Influence of Drug Treatment on Neonatal Sepsis." *Infection and Immunity* 81, no. 5 (May 2013): 1520–31. <https://doi.org/10.1128/iai.01235-12>.

can affect certain outcomes of research, claiming that “-evidence demonstrates that critically important physiological and genetic differences between humans and other animals can invalidate the use of animals to study human diseases, treatments, pharmaceuticals, and the like.” In a sense, Akhtar is criticizing the overwhelming response to animal testing, as it is claimed directly in the article as the “gold standard of preclinical testing,” due to its abundance of use in the medical field. The overall validity of results from these trials can conflict with the premise of actual science; it simply may not be factual. Is it worth the funding and the potential harm to animals if it is not actually accurate?

Ethical Guidelines for Animal Experimentation

In countries around the globe, Animal Ethics Committees function to assess whether animals are being treated to an upheld moral standard. Certain marks must meet these standards to ensure animal welfare within a testing environment. Before experimentation, researchers must obtain an ethical approval certificate, which essentially declares that the benchmarks of their local Animal Ethics Committee will be met. For example, the study mentioned prior from the University of Regensburg got official certification of approval from European veterinarian boards to permit the use of mice in their experiment. Even with these ethical laws in place, there is proof of mistreatment among animals in research⁶, even at highly prestigious institutions.

The University of California, Davis has been under investigation on numerous occasions for the sole purpose of maltreatment of their animal test subjects. In 2005, seven monkeys who were the subject of tests at UC Davis died of extreme heat exposure, which led to a fine on the facility. In 2016, at the same institution, another investigation was conducted regarding the unsafe protocol of primate housing. Two monkeys were injured due to similar circumstances including unsafe operations with doors, which led to one of the monkeys with both legs broken. Another incident of uncalled deaths among monkeys at UC Davis occurred in 2018. Considering that unnecessary death occurred, this form of animal testing done by UC Davis is extremely unethical and simply cruel. The overall purpose of animal testing is to conduct safety precautions, but considering how the safety of these poor test subjects is not being taken with proper care, it truly questions the general ethics of scientists, and their animal test subjects,⁶ especially in well-known scientific institutions like UC Davis.

Source Reliability

⁶Akkaya, Elif, and Harun Reşit Güngör. “The Dark Side of the Animal Experiments.” *National Library of Medicine*, July 6, 2022. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9361100/>.

In circumstances in which animals are not being mistreated, however, some of these types of trials on animals do have reliable research from well-established individuals. Rachel Hajar, M.D., has 86 publications regarding cardiovascular research as well as medical journals. In the argument for animal testing, her stance can be considered reliable due to her position in the medical field and the wide variety of research she has conducted. However, Dr. Hajar specializes in cardiovascular medicine, which can conflict with the topic at hand. Since she is not specifically qualified in the science of animal testing, then it could question the source's validity⁷. Another source used in the argument for animal testing was an experiment conducted by the University of Regensburg. Looking into the statistics of the university, it is ranked #33 for best global universities in Germany and is ranked #307 globally in the subject of Molecular Biology and Genetics. Considering the vast number of institutions that study this subject, the ranking is significant in proving that the University of Regensburg is a prestigious institution and, therefore reliable⁸.

The argument that is against animal testing acquires mixed amounts of reliability. Based on the information given by Aysha Akhtar, is mainly focused on her stance on the subject. The article written is based on Dr. Akhtar's opinion and only some scientific findings. Looking into Aysha Akhtar, she publishes herself as an animal ethics advocate and has a publication relating to the empathy between humans and animals. Found on her website, all the subpages relate to animal cruelty or the wellbeing of animals. Dr. Akhtar has an established ideology on the topic of animal testing based on the information on her website⁹. The scientific findings from Dr. Akhtar may be skewed due to her biased stance on the topic of animal testing. Opinionated sources can be a cause of concern when it comes to reliability, especially if it is under topics as sensitive as animal testing. In the source used in the argument, Dr. Akhtar does make solid claims when it comes to the accuracy of animal testing and how it may be hindered, but the research is also full of emotional bias. Akhtar may combine her stance and scientific findings, which could question the overall validity of her argument.

Conclusion

Animal testing has allowed medical scientists to excel in their research and overall growth for experimentation. However, the overall safety of

⁷ "Rachel Hajar." Research Gate, n.d. <https://www.researchgate.net/profile/Rachel-Hajar>.

⁸ "See Where University of Regensburg Ranks among the World's Best Universities." U.S. News and World Report. Accessed December 18, 2023. <https://www.usnews.com/education/best-global-universities/university-of-regensburg-500220>.

⁹ Akhtar, A. (2023). Aysha Akhtar. Retrieved from Aysha Akhtar. Accessed December 19, 2023 <https://ayshaakhtar.com/>.

animal test subjects has proven to be a place of concern, as mentioned previously in many instances of unethical animal welfare. The main purpose of animal testing can be concluded to be a shield of protection for humans, but the same cannot be given back to animals that undergo experimentation for our protection. In the unfortunate circumstances of animal injustice, including the multiple events at UC Davis, the argument for animal testing poses an ethical war regarding human safety while exploiting vulnerable lives. The issues both can be argued and justified, which makes the argument quite difficult to conclude. The continuation of animal testing is vital for the safety of humans, even as devastating the outcomes may be for test subjects. With the information given by each source as well as the analysis of validity, the argument that supports the use of animal testing has the most trusted sources and understandable reasoning. Animal testing has helped the scientific field tremendously and has prevented numerous human deaths. The medical reasoning for animal testing is solely based on the safety of humans, and as conceding as it may sound, animals are not capable of achieving the work of humans. Anthropocentrism is the belief that humans possess a higher inherent value than other species due to the amount of development humans have obtained¹⁰. In a sense, anthropocentrism can be justified since the evidence of human development is much more apparent than those from animals. Writing this essay is solid proof of how developed humans have become, and animal testing is providing humans to extend their knowledge further. It can be concluded that an animal's pain is necessary to test products to protect human life, as humans are a superior species and can use their knowledge to give back to animals. This is exemplary in veterinary care, as technology constantly evolves to improve the lives of animals.

Throughout the process of composing this essay, newfound understanding and growth of knowledge led to a different perspective on animal testing. Initially, my focus was primarily on the ethical concerns surrounding the practice, which, at first glance, appeared to carry the greatest emotional weight. Many sources emphasize the more ethically distressing aspects of animal testing, often outlining instances in which moral considerations were overlooked. However, after further investigation into both the ethical and educational versions of animal testing, its crucial purpose in advancing research, the overall benefit to the medical field, and our general health and safety as humans, has proven to be worth the sacrifice animals have made for our species.

¹⁰ Ryder, Richard. "Speciesism." Essay. In *Encyclopedia of Applied Ethics*, 213–19. Cambridge, Massachusetts: Academic Press, 2012.

While the potential harm to animals involved in these experiments presents a significant moral dilemma, it is evident that animal testing serves as a vital source for ensuring human protection. Without animal testing, considerable risks to human health would arise, particularly regarding the safety of synthetic products and pharmaceuticals. We always claim that safety is one of the human priorities, and animal testing allows that to manifest in real time.

Next Steps

Some further reading to learn more about the ideology behind animal testing in the *Encyclopedia of Applied Ethics: Second Edition*. The book goes over how humanity can be considered at a higher level than other animals, and the ethical standpoint of animal testing and its purpose. As controversial as some may present the argument, the overall safety of humans will allow the continuation of animal protection in other practices, such as veterinary care. The philosophical debate on the superiority of humans often revolved around complex issues such as moral agency and rationality. Newer and more contemporary views on human superiority however now focus on the evolving world around us. Medical research and science in general are constantly finding new paths to improving human health and life overall. Adjusting to the new age of discovery involves the mental set that humans can achieve more meaningful successes for our betterment as human beings. Darwinism emphasizes the initial divide between man and animal, and how our intelligence has proved our niche within this world as discoverers.

Animals make the ultimate sacrifice for us humans to thrive, and their involuntary place in the medical field and our daily lives are felt heavily. With constantly evolving technology in our day and age, it is possible that animal testing would not need to be relied on as much as now. However, realistically, animal testing gives humans accurate responses to certain products, leaving danger out of our way. In the future, animal testing can hopefully be weaned off, but what matters now is our present; it is up to us humans to one day give back to those animals who undergo these experiments. After all, they unintentionally save our lives every day.

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